US Army Medical Research and Materiel

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Alkaloids of *Picralima Nitida* Used for Treatment of Protozoal Diseases

Features and advantages:

- **Extracts of *P. nitida* were active against drug-resistant and drug-sensitive malaria, *in vitro***
- ***Leishmania* promastigotes were inhibited by *P. nitida* extracts, *in vitro***
- **Mice and rats were cleared of *Trypanosoma* parasites after treatment with *P. nitida* extracts**

Patent Status

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Point of Contact

Dr. Paul C. Mele
Director, Office of Research and Technology Applications
USAMRMC, MCMR-ZA-J
504 Scott St., Ft. Detrick, MD 21702-5012
E-mail: usamrmcorta@amedd.army.mil
Voice: 301-619-6664/2032/7219 Fax: 301-619-5034

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This invention is a method for preparing substantially purified alkaloids from the seeds, fruit rind, and bark of plants, principally *Picralima nitida*, but also other African plants that are used in traditional herbal therapy for the cure of protozoal diseases. The method involves pulverizing the plant and using a variety of solvents and boiling water extracts, combined with concentration and filtration of the extract, ending with separation of the alkaloid fraction by liquid chromato-graphy - mass spectrometry.

Three protozoal diseases, leishmaniasis, malaria, and trypanosomiasis, pose major worldwide health problems, especially in developing countries. Available chemotherapeutic agents for these diseases are often unsatisfactory, due to drug resistance, potential toxic side effects requiring observation or hospitalization during treatment, and the need for prolonged medication. The major alkaloids of *P. nitida* were shown *in vitro* as active against two malaria clones, one that was resistant to chloroquine and pyrimethanime-sulfadoxine, and another clone that was resistant to mefloquine. Other native African plants were extracted and shown to be active [illegible] leishmanial parasites, in addition to *P. nitida* extracts.

Trypanosoma brucei parasites were eliminated from mice and rats that were treated with methanol and aqueous extracts of *P. nitida*.

Increasingly, conventional drugs are ineffectual against some diseases. New drugs based on herbal therapies may provide a successful treatment option.

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